UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,820	06/07/2001	Avinash Jain	010296	1176

23696 7590 03/10/2008
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER	
LEE, ANDREW CHUNG CHEUNG	
ART UNIT	**PAPER NUMBER**
2619	

NOTIFICATION DATE	DELIVERY MODE
03/10/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
nanm@qualcomm.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/877,820
Filing Date: June 07, 2001
Appellant(s): JAIN ET AL.

Avinash Jain et al.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/10/2007 appealing from the Office action mailed08/10/2007.

(1) Real Party in Interest

1. A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interference

2. The examiner is not aware of any related or pending appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

3. This appeal involves claims 1 – 10, and 13 – 20.

Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

(4) Status of Amendments After Final

4. The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

5. The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

6. The appellant's statement of the issues in the brief is correct.

7. The appellant's statement of the issues in the brief is substantially correct. The changed are as follows:

Claims are rejected: 1 – 10, and 13 – 20.

Claims are objected: 11, 12.

(7) Claims Appendix

8. Claims are rejected: 1 – 10, and 13 – 20.

9. Claims are objected: 11, 12.

(8) Evidence Relied Upon

6097697	Yao et al.	Aug. 1, 2000
6553235	Bark et al.	Apr. 22, 2003
6707862	Larsson	Mar. 16, 2004

(9) Grounds of Rejection

10. The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1 – 3, 8 – 10, 13 – 14, 17, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Larsson (US 6707862 B1).

Regarding Claims 1, 13, Larsson discloses the limitation of a method to determine a next data rate in a mobile station of a wireless system (“to predictively

determine a traffic channel data rate" correlates to determine a next data rate in a mobile station of a wireless system; Fig. 4, column 2, lines 58 – 67), comprising: receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit ("the base station computes a suitable power correction command (interpreted as congestion indicator) which is then transmitted back to the mobile over the forward link…it is desirable to encode each command as a single bit" correlates to receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; column 2, lines 41 – 55); Larsson discloses implicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds, ..selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55).

Regarding Claims 2, 14, Larsson discloses the limitation of a method as in claimed Wherein generating the next data rate further ("to predictive determine a traffic channel data rate"; Fig. 4, column 2, lines 58 – 67) comprises: comparing at least one previous data rate to a target data rate for the mobile station ("transmitted energy per bit within the most recently transmitted data frame using the traffic channel power and the current data rate"; column 6, lines 17 – 23); and in response to a first result of comparing determining the next data rate by adjusting at least one data rate ("the data

rate is then adjusted with respect to the actual statistics of Z by using the threshold"; column 7, lines 35 – 36).

Regarding Claim 3, Larsson discloses the limitation of a method of claimed wherein adjusting the at least one previous data rate performs a statistical analysis ("the data rate is then adjusted with respect to the actual statistics of Z by using the threshold"; column 7, lines 35 – 36).

Regarding Claim 8, Larsson discloses the limitation of a method as in claimed wherein the next data rate is generated at the mobile station and is independent of other mobile stations ("controlling the data rate of a wireless transmitter"; column 3, lines 63 – 64, column 4, lines 4 – 5;).

Regarding Claim 9, Larsson discloses the limitation of a method as in claimed wherein the maximum number is predetermined ("maximum aggregate data rate"; column 2, lines 1 – 6).

Regarding Claim 10, Larsson discloses the method as in claimed wherein the congestion indicator comprises multiple bits ("the incoming stream of power control bits"; column 10, lines 19 – 21).

Regarding claim 17, Larsson discloses an apparatus for determining a next data rate of an access terminal (Fig. 5), comprising: a receive circuit for receiving a congestion indicator having at least one data bit from an access network ("bit energy computer" correlates to a receive circuit for receiving a congestion indicator; column 7, lines 49 – 65, "computes a suitable power correction command (interpreted as congestion indicator) which is then transmitted back to the mobile over the forward

link…it is desirable to encode each command as a single bit" correlates to receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; column 2, lines 41 – 55); and Larsson discloses implicitly a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal ("decimator, weighted average and comparator" correlates to a data rate adjustment circuit coupled to the receive circuit; Fig. 5, column 7, lines 59 – 67, column 8, lines 4 – 15; ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds, ..selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55).

Regarding claim 18, Larsson disclose the apparatus as in claimed further comprising a comparator configured to compare a previous data rate to a target data rate for the access terminal, the comparator being coupled to the data rate adjustment circuit, wherein the data rate adjustment circuit being configured to generate the next data rate by adjusting the previous data rate in response to a result of comparing the previous data rate to the target rate ("comparator" correlates to a comparator configured to compare a previous data rate to a target data rate for the access terminal; Fig. 5, column 8, lines 4 – 15).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1 – 3, 8 – 10, 13 – 14, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson (US 6707862 B1) in view of Yao et al. (6097697).

Regarding Claims 1, 13, Larsson discloses the limitation of a method to determine a next data rate in a mobile station of a wireless system ("to predictively determine a traffic channel data rate" correlates to determine a next data rate in a mobile station of a wireless system; Fig. 4, column 2, lines 58 – 67), comprising: receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit ("the base station computes a suitable power correction command (interpreted as congestion indicator) which is then transmitted back to the mobile over the forward link…it is desirable to encode each command as a single bit" correlates to receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; column 2, lines 41 – 55); Larsson discloses implicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds,

..selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55).

Larsson does not disclose explicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station.

Yao et al. teach explicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station ("the statistics provide indications of congestion of the data network. The functions also feature adjusting a transmission rate from the source to destination in response to a combination of the derived statistics" correlates to generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station; column 2, lines 22 – 29, 42 – 45, 56 – 60; column 4, lines 54 – 58; column 8, lines 28 – 41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station as taught by Yao et al. in order to provide the rates of a group of connections to a common destination can be controlled together. Patterns of packet loss are monitored on the group of streams, thereby providing improved indicators of

congestion compared to indicators based soley on the individual data streams (as suggested by Yao et al., see column 3, lines 11 – 15).

Regarding Claims 2, 14, Larsson discloses the limitation of a method as in claimed Wherein generating the next data rate further ("to predictive determine a traffic channel data rate"; Fig. 4, column 2, lines 58 – 67) comprises: comparing at least one previous data rate to a target data rate for the mobile station ("transmitted energy per bit within the most recently transmitted data frame using the traffic channel power and the current data rate"; column 6, lines 17 – 23); and in response to a first result of comparing determining the next data rate by adjusting at least one data rate ("the data rate is then adjusted with respect to the actual statistics of Z by using the threshold"; column 7, lines 35 – 36).

Regarding Claim 3, Larsson discloses the limitation of a method of claimed wherein adjusting the at least one previous data rate performs a statistical analysis ("the data rate is then adjusted with respect to the actual statistics of Z by using the threshold"; column 7, lines 35 – 36;).

Regarding Claim 8, Larsson discloses the limitation of a method as in claimed wherein the next data rate is generated at the mobile station and is independent of other mobile stations ("controlling the data rate of a wireless transmitter"; column 3, lines 63 – 64, column 4, lines 4 – 5;).

Regarding Claim 9, Larsson discloses the limitation of a method as in claimed wherein the maximum number is predetermined ("maximum aggregate data rate"; column 2, lines 1 – 6).

Regarding Claim 10, Larsson discloses the method as in claimed wherein the congestion indicator comprises multiple bits ("the incoming stream of power control bits"; column 10, lines 19 – 21).

Regarding claim 17, Larsson discloses an apparatus for determining a next data rate of an access terminal (Fig. 5), comprising: a receive circuit for receiving a congestion indicator having at least one data bit from an access network ("bit energy computer" correlates to a receive circuit for receiving a congestion indicator; column 7, lines 49 – 65, "computes a suitable power correction command (interpreted as congestion indicator) which is then transmitted back to the mobile over the forward link…it is desirable to encode each command as a single bit" correlates to receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; column 2, lines 41 – 55); and Larsson discloses implicitly a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal ("decimator, weighted average and comparator" correlates to a data rate adjustment circuit coupled to the receive circuit; Fig. 5, column 7, lines 59 – 67, column 8, lines 4 – 15; ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds, ..selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating

the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55).

Larsson does not disclose explicitly a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal.

Yao et al. teach explicitly a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal ("the statistics provide indications of congestion of the data network. The functions also feature adjusting a transmission rate from the source to destination in response to a combination of the derived statistics" correlates to explicitly a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal; Fig. 1, column 2, lines 22 – 29, 42 – 45, 56 – 60; column 4, lines 54 – 58; column 8, lines 28 – 41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal as taught by Yao et al. in order to

provide the rates of a group of connections to a common destination can be controlled together. Patterns of packet loss are monitored on the group of streams, thereby providing improved indicators of congestion compared to indicators based soley on the individual data streams (as suggested by Yao et al., see column 3, lines 11 – 15).

Regarding claim 18, Larsson disclose the apparatus as in claimed further comprising a comparator configured to compare a previous data rate to a target data rate for the access terminal, the comparator being coupled to the data rate adjustment circuit, wherein the data rate adjustment circuit being configured to generate the next data rate by adjusting the previous data rate in response to a result of comparing the previous data rate to the target rate ("comparator" correlates to a comparator configured to compare a previous data rate to a target data rate for the access terminal; Fig. 5, column 8, lines 4 – 15).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 4 – 7, 15 – 16, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2).

Regarding Claims 4, 15, 19, Larsson discloses a method, an apparatus of

claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced "to predictive determine a traffic channel data rate") further comprises:

Larsson does not disclose explicitly counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate.

Bark et al. disclose counting a number of consecutive same value congestion indicators (Fig. 4, element P1, column 5, lines 1 – 3); and if the number of consecutive same value congestion indicators is less than a predetermined maximum number (column 5, lines 4 – 6), determining the next data rate by maintaining the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

Regarding Claims 5, 16, 20, Larsson discloses of a method, an apparatus as in claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced "to predictive determine a traffic channel data rate") further comprises:

Larsson does not disclose explicitly if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate.

Bark et al. disclose if the number of consecutive same value congestion indicators is equal to or greater than the maximum number (column 6, lines 19 – 20), determining the next data rate by adjusting the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

Regarding Claim 6, Larsson does not disclose a method as in claimed wherein for a first congestion condition if the previous data rate is greater than the target data rate, adjusting comprises decreasing.

Bark et al. disclose a method as in claimed wherein for a first congestion condition if the previous data rate is greater than the target data rate, adjusting comprises decreasing (column 5, lines 6 – 8; lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include wherein for a first congestion condition if the previous data rate is greater than the target data rate, adjusting comprises decreasing such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

Regarding Claim 7, Larsson does not disclose a method as in claimed wherein for a second congestion condition if the previous data rate is less than the target data rate, adjusting comprises increasing.

Bark et al. discloses a method as in claimed wherein for a second congestion condition if the previous data rate is less than the target data rate, adjusting comprises increasing (column 5, lines 4 – 6; lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include wherein for a second congestion condition if the previous data rate is less than the target data rate, adjusting comprises increasing such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

Allowable Subject Matter

19. Claims 11, 12, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(10) Response to Argument

20. Regarding Claims 1 – 3, 8 – 10, 13 – 14, 17, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Larsson (US 6707862 B1).

Regarding claims 1, 13,

In the appellant appeal brief (page 9), the appellant argues the reference Larsson does not disclose expressly or inherently the limitations of generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station. Examiner respectfully disagrees.

In response to appellant's argument above, reference Larsson does teach and suggest generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station (see Larsson col. 2, lines 36 – 55, and Fig. 4, col. 6, lines 13 – 55).

Larsson teaches a wireless transmitter includes a data rate controller operating to predictively determine a traffic channel data rate for a frame of data stream using a previous data rate, transmitted bit energy of a traffic channel and a target data throughput (see abstract) discloses the limitation of a method to determine a next data rate in a mobile station of a wireless system ("to predictively determine a traffic channel data rate" correlates to determine a next data rate in a mobile station of a wireless

system; Fig. 4, column 2, lines 58 – 67), comprising: receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit ("the base station computes a suitable power correction command (interpreted as congestion indicator) which is then transmitted back to the mobile over the forward link…it is desirable to encode each command as a single bit" correlates to receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; column 2, lines 41 – 55); Larsson discloses generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds, ..selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55; Fig. 5 indicates clearly the power control commands and the bit energy is directly coupled and correlated to each other, see col. 5, lines 14 – 25, also col. 7, lines 50 – 65).

Therefore reference Larsson does teach generating the next data rate as a function of data rate history and history of congestion indicator of the mobile station.

For the above reasons, it is strongly believed that the rejection of claims 1, 13 under 35 U.S.C. 102(e) based on Larsson should be maintained.

With regard to the appellant's argument on page 10 for the contradiction claimed of the congestion indicator. Examiner also respectfully disagree appellant's point of view. The statement in page 10 Power control (PC) bit calculated by a base station provided by appellant is not correct. Examiner cites "computes a suitable power correction command…encode each command as a single bit" correlates to the congestion indicator includes at least one data bit. The value of the received power control bit and the estimate of the average bit energy are directly correlates to each other (see col. 5, lines 12 – 25, see also Fig. 5, col. 7, lines 50 – 65)

For the above reasons, it is believed that the rejection of claims 1, 13 under 35 U.S.C §102(e) based on by Larsson (US 6707862 B1) should be sustained.

In the appellant appeal brief (page 11), the appellant argues the reference Larsson's mere disclosure of the average bit energy "over the last few frames" **cannot** support of an inherent anticipatory disclosure under 35 U.S.C. 102 of Applicant's claim including "generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station. Examiner respectfully disagrees.

In response to appellant's argument above, reference Larsson does teach and suggest generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station (see Larsson col. 2, lines 36 – 55, and Fig. 4, col. 6, lines 13 – 55).

Larsson discloses a data rate adjustment circuit coupled to the receive circuit, the data rate adjustment circuit being configured to generate the next data rate in the access terminal as a function of the data rate history and the history of the congestion indicator of the access terminal ("decimator, weighted average and comparator" correlates to a data rate adjustment circuit coupled to the receive circuit; Fig. 5, column 7, lines 59 – 67, column 8, lines 4 – 15; ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds, …….selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55; wherein "the data rate to be used by the transmitter from the set r_0, r_1,….r_m" is interpreted as the data rate history, and "based on the current and previous values of Z" is interpreted as history of the congestion indicator; Examiner interpreted history as a table or a list or profile or database encoded in the memory).

Therefore reference Larsson does support a finding of anticipatory disclosure under 35 U.S.C. 102 of Appellant's claim including generating the next data rate as a function of data rate history and history of congestion indicator of the mobile station.

For the above reasons, it is strongly believed that the rejection of claims 1, 13, 17 under 35 U.S.C. §102(e) based on Larsson should be maintained.

20. Claims 1 – 3, 8 – 10, 13 – 14, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson (US 6707862 B1) in view of Yao et al. (6097697).

Regarding claims 1, 13, 17,

In the appellant appeal brief (page 14), the appellant argues the reference Yao that "a single entity generates "the statistics [of Yao]", namely the "indications of congestion", as some how teaching or suggesting a "congestion indicator" that is generated by one entity (e.g. base station) and then received by a second entity (e.g., mobile station) is improper". The statement provided by the Appellant is incorrect. Examiner respectfully disagrees.

In response to appellant's argument above, the reference Yao that "a single entity generates "the statistics [of Yao]", namely the "indications of congestion", as some how teaching or suggesting a "congestion indicator" that is generated by one entity (e.g. base station) and then received by a second entity (e.g., mobile station) is proper.

Referring to Appellant independent claim 1, the claimed subject matter "receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit" is interpreted as base station transmits a congestion indicator, and a mobile station receives the congestion indicator from the base station. It indicates a "congestion indicator" that is generated by one entity (e.g. base station) and then received by a second entity (e.g., mobile station). The signal flow of the "congestion indicator" is from base station to the mobile station or terminal.

Therefore the teaching "congestion indicator" that is generated by one entity (e.g. base station) and then received by a second entity (e.g., mobile station) of reference Yao is proper.

Regarding Claims 1, 13, 17,

In the appellant appeal brief (page 14), the appellant further argues the reference Larsson does not teach or suggests 'generating the next data rate in the mobile station as a function of ….[the] history of congestion indicators" and since reference Yao does not teach or suggest "generat[ing]/determining [a] next data rate ….as a function of ….the history of the [received] congestion indicator"; these references, either individually or in any proper combination, cannot render obvious, under 35 U.S.C. 103.

Examiner respectfully disagrees with Appellant's assertion.

Examiner respectfully submits that (as submitted in the Final Office Action dated 08/10/2007), Larsson discloses the limitation of a method to determine a next data rate in a mobile station of a wireless system ("to predictively determine a traffic channel data rate" correlates to determine a next data rate in a mobile station of a wireless system; Fig. 4, column 2, lines 58 – 67), comprising: receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit ("the base station computes a suitable power correction command (interpreted as congestion indicator) which is then transmitted back to the mobile over the forward link…it is desirable to encode each command as a single bit" correlates to receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; column 2,

lines 41 – 55); Larsson discloses implicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station ("the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds, …..selects the data rate to be used by the transmitter from the set r_0, r_1,….r_m, ;….. estimates the statistical distribution of Z over the last few frames based on the current and previous values of Z" correlates to generating the next data rate, data rate history and history of congestion indicator; Fig. 4, column 6, lines 13 – 55).

Larsson does not disclose explicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station.

Yao et al. teach explicitly generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station ("the statistics provide indications of congestion of the data network. The functions also feature adjusting a transmission rate from the source to destination in response to a combination of the derived statistics" correlates to generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of the mobile station; column 2, lines 22 – 29, 42 – 45, 56 – 60; column 4, lines 54 – 58; column 8, lines 28 – 41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include generating the next data rate in the mobile station as a function of data rate history and history of congestion indicator of

the mobile station as taught by Yao et al. in order to provide the rates of a group of connections to a common destination can be controlled together. Patterns of packet loss are monitored on the group of streams, thereby providing improved indicators of congestion compared to indicators based soley on the individual data streams (as suggested by Yao et al., see column 3, lines 11 – 15).

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claims 1, 13, 17 under 35 U.S.C. 103 based on Larsson (US 6707862 B1) in view of Yao et al. (6097697) should be maintained.

21. Claims 4 – 7, 15 – 16, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2).

Regarding Claims 4 – 7,

In the appellant appeal brief (page 16), the appellant argues the nonobviousness of independent claim 1 precludes a rejection of claims 4 – 7 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious.

Examiner respectfully disagrees.

In response to appellant's argument above, the obviousness of independent claim 1 is addressed previously, therefore a rejection of claims 4 – 7 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious.

Regarding Claim 4, Larsson discloses a method, an apparatus of claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced “to predictive determine a traffic channel data rate”) further comprises:

Larsson does not disclose explicitly counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate.

Bark et al. disclose counting a number of consecutive same value congestion indicators (Fig. 4, element P1, column 5, lines 1 – 3); and if the number of consecutive same value congestion indicators is less than a predetermined maximum number (column 5, lines 4 – 6), determining the next data rate by maintaining the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on

radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 4 under 35 U.S.C. 103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding Claim 5, Larsson discloses of a method, an apparatus as in claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced “to predictive determine a traffic channel data rate”) further comprises:

Larsson does not disclose explicitly if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate.

Bark et al. disclose if the number of consecutive same value congestion indicators is equal to or greater than the maximum number (column 6, lines 19 – 20), determining the next data rate by adjusting the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include if the number of consecutive same

value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 5 under 35 U.S.C. 103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding Claim 6, Larsson does not disclose a method as in claimed wherein for a first congestion condition if the previous data rate is greater than the target data rate, adjusting comprises decreasing.

Bark et al. disclose a method as in claimed wherein for a first congestion condition if the previous data rate is greater than the target data rate, adjusting comprises decreasing (column 5, lines 6 – 8; lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include wherein for a first congestion condition if the previous data rate is greater than the target data rate, adjusting comprises

decreasing such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 6 under 35 U.S.C. 103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding Claim 7, Larsson does not disclose a method as in claimed wherein for a second congestion condition if the previous data rate is less than the target data rate, adjusting comprises increasing.

Bark et al. discloses a method as in claimed wherein for a second congestion condition if the previous data rate is less than the target data rate, adjusting comprises increasing (column 5, lines 4 – 6; lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include wherein for a second congestion condition if the previous data rate is less than the target data rate, adjusting comprises increasing such as that taught by Bark et al. in order to provide method and system for

monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 7 under 35 U.S.C. 103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding claims 15 – 16,

In the appellant appeal brief (page 16), the appellant argues the nonobviousness of independent claim 13 precludes a rejection of claims 15 – 16 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. Examiner respectfully disagrees.

In response to appellant's argument above, the obviousness of independent claim 13 is addressed previously, therefore a rejection of claims 15 – 16 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious.

Regarding Claim 15, Larsson discloses a method, an apparatus of claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced "to predictive determine a traffic channel data rate") further comprises:

Larsson does not disclose explicitly counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate.

Bark et al. disclose counting a number of consecutive same value congestion indicators (Fig. 4, element P1, column 5, lines 1 – 3); and if the number of consecutive same value congestion indicators is less than a predetermined maximum number (column 5, lines 4 – 6), determining the next data rate by maintaining the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time

of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 15 under 35 U.S.C. 103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding Claim 16, Larsson discloses of a method, an apparatus as in claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced "to predictive determine a traffic channel data rate") further comprises:

Larsson does not disclose explicitly if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate.

Bark et al. disclose if the number of consecutive same value congestion indicators is equal to or greater than the maximum number (column 6, lines 19 – 20), determining the next data rate by adjusting the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential

congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 16 under 35 U.S.C. §103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding claims 19 – 20,

In the appellant appeal brief (page 17), the appellant argues the nonobviousness of independent claim 17 precludes a rejection of claims 19 – 20 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious.

Examiner respectfully disagrees.

In response to appellant's argument above, the obviousness of independent claim 17 has been addressed previously, therefore a rejection of claims 19 – 20 which depend therefrom because a dependent claim is obvious since they depend upon the independent claim.

Regarding Claim 19, Larsson discloses a method, an apparatus of claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced "to predictive determine a traffic channel data rate") further comprises:

Larsson does not disclose explicitly counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate.

Bark et al. disclose counting a number of consecutive same value congestion indicators (Fig. 4, element P1, column 5, lines 1 – 3); and if the number of consecutive same value congestion indicators is less than a predetermined maximum number (column 5, lines 4 – 6), determining the next data rate by maintaining the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include counting a number of consecutive same value congestion indicators; and if the number of consecutive same value congestion indicators is less than a predetermined maximum number, determining the next data rate by maintaining the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time

of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 19 under 35 U.S.C. §103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

Regarding Claim 20, Larsson discloses of a method, an apparatus as in claimed wherein generating the next data rate (Fig. 4, column 2, lines 58 – 67; referenced "to predictive determine a traffic channel data rate") further comprises:

Larsson does not disclose explicitly if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate.

Bark et al. disclose if the number of consecutive same value congestion indicators is equal to or greater than the maximum number (column 6, lines 19 – 20), determining the next data rate by adjusting the at least one previous data rate (column 5, lines 49 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Larsson to include if the number of consecutive same value congestion indicators is equal to or greater than the maximum number, determining the next data rate by adjusting the at least one previous data rate such as that taught by Bark et al. in order to provide method and system for monitoring potential

congestion on radio channels, and when appropriate, relieving the radio channel congestion as suggested by Bark et al., see column 1, lines 66 – 67, column 2, line 1.

As mentioned in the Final Office Action dated 08/10/2007, such motivation is based on the knowledge generally available to one of ordinary skill in the art at the time of the invention. See In re Fine, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejection of claim 20 under 35 U.S.C. §103 based on Larsson (US 6707862 B1) in view of Bark et al. (US 6553235 B2) should be maintained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the Examiner in the Related Appeals and Interferences section of this Examiner's Answer.

For the above reasons, it is believed that the rejections (claims 1 – 10, 13 – 20) should be maintained.

Respectfully submitted,

/SA/

Lee, Andrew Chung-Cheung

(Patent Examiner)

Conferees:

Orgad Edan

(Supervisory Patent Examiner, AU2619)

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2619

/Wellington Chin/

Chin Wellington

(Supervisory Examiner, Quality Assurance Specialist, TQAS)